

UV Modules

- **Wavelength coverage: 210 to 475 nm**
- **Computer Control Tuning**
- **Hermetically Sealed Enclosure**
- **Used with MagicPrism™ OPO**



The tuning range of systems equipped with either the model VIS or model VIR MagicPrism™ Optical Parametric Oscillator (OPO) can be extended to the UV region, 210 nm to 475 nm, with OPOTEK UV Modules. Each UV module incorporates a BBO crystal, cut at a specific angle for a specific tuning range, mounted on a rotation stage in a hermetically sealed housing to prevent moisture and particulate matter from damaging the crystal. Light enters and leaves the module via Brewster windows. Stepping motor drives the tuning mechanism and the tuning is done either by the customer's computer or by the Comptroller™ (optional). Various modules can be selected based on the desired tuning range. Tuning the UV modules. The standard UV modules are presented in the following table:

In a "doubler" module the output beam from the OPO is focused into the crystal, and a portion of the energy is converted to light at half of the wavelength (twice the frequency) of the incoming light. The "doubled" beam is collimated by a second lens as it leaves the module. As the OPO changes wavelength, the BBO crystal in the doubler is rotated to achieve phase matching and to maximize the conversion efficiency.

In a frequency mixer, light from the OPO enters collinearly with the residual 1.06-micron beam from the pump laser. The two beams are "mixed" in the crystal, and some

of the energy is converted to a beam at the corresponding UV wavelength. As the OPO changes wavelength, the BBO crystal in the mixer is rotated to achieve phase matching and to maximize the conversion efficiency.

